

Date: Thu, 11 Mar 93 04:30:02 PST
From: Packet-Radio Mailing List and Newsgroup <packet-radio@ucsd.edu>
Errors-To: Packet-Radio-Errors@UCSD.Edu
Reply-To: Packet-Radio@UCSD.Edu
Precedence: Bulk
Subject: Packet-Radio Digest V93 #64
To: packet-radio

Packet-Radio Digest Thu, 11 Mar 93 Volume 93 : Issue 64

Today's Topics:

 Am I right or wrong?
 Baycom modem schematics??
 just wondering? (2 msgs)
 looking for net rom format
 MFJ-1270B: Handshaking Problem
 Need Diagrams
 Source for Ka9Q with Gopher server

Send Replies or notes for publication to: <Packet-Radio@UCSD.Edu>

Send subscription requests to: <Packet-Radio-REQUEST@UCSD.Edu>

Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Packet-Radio Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/packet-radio".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 10 Mar 93 22:29:41 GMT
From: dog.ee.lbl.gov!hellgate.utah.edu!cs.utexas.edu!swrinde!zaphod.mps.ohio-
state.edu!howland.reston.ans.net!newsserver.jvnc.net!netnews.upenn.edu!
vaal.cpr.upenn.edu@network.UCSD.EDU
Subject: Am I right or wrong?
To: packet-radio@ucsd.edu

Hello, all

I just read 30 posts and the FAQ, and I still don't quite get it. May I ask
you to disillusion me (or get me started)?

Here's what I think packet radio can do: I can get a laptop outfitted with a
TNC and a radio and give my girlfriend one too, and then when she's in class, I
can beep her and we can type messages back and forth using these radio-based
terminals.

Is that right? Is that expensive?

Thanks!!

Chris
cjn@vaal.cpr.upenn.edu

Date: 10 Mar 93 16:49:58 MDT
From: dog.ee.lbl.gov!hellgate.utah.edu!cc.usu.edu!sltmw@network.UCSD.EDU
Subject: Baycom modem schematics??
To: packet-radio@ucsd.edu

I just layed my hands on BAYCOM V1.5, but the documentation doesn't have anything on a modem. There is the parts list, but there is no schematic. Does anyone out there by chance have an ASCII format schematic, or know where I can get one, or know where I can get an already-built one?

TNX and 73 de Dan N7NKR

--
-----The Ex-Royal Gigolo of the House of Norwedia-----
/ | "I drank WHAT?" -Socrates
\ uper |)an |-|olmes | "I love the smell of Napalm in the morning" -Big Duke:
/ 'N7NKR' | Apocalypse Now

I'net: sltmw@cc.usu.edu sltmw@cache.declab.usu.edu Bitnet: sltmw@usu.bitnet

ghazexsrcwtdceterfygtgyiy <-----sorry, just wiping the puke off my keyboard

Date: 10 Mar 93 05:11:14 GMT
From: afterlife!wapembe@mimsy.umd.edu
Subject: just wondering?
To: packet-radio@ucsd.edu

i have a mfj-1270b. the only problems i have with it are two. the first problem is quality of manufacture. i prefer units that have well fitting faces and screws that seat well. my unit is a little lacking in this. nor is the unit flush with the table top. i fully admit these are cosmetic differences and are shortcomings to me. but, i still tend to look at such sloppiness as a sign of potential inferior components internal to the device. the second problem is that the unit is very noisy. this may just be my device or a particular lot. a friend and i bought ours at the same time and both units are noisy to my radio. the radio is a knwd th-27a. this could be a problem with the radio but you have

to check out the radio you plan to use. the noise level was sufficient to force me to install an outside antenna in order to reach a local bbs board. however, i have had no problem with the unit from a functional standpoint. i guess the bottom line is would i buy the unit again? probably not. this is due to what i have seen of their products in other areas. please note that all the mfj stuff i have (versa tuner II, keyer, tnc) all work. i just am not pleased with the quality of manufacturing. THIS IS A PERSONAL PREFERENCE and you have to make up your own mind about this. find someone with what you are looking to purchase and ask them to let you look inside the device. pass judgement from there. i have a friend who has a kantronics (i think, i just know it is not an mfj device) and she likes it a great deal. she is able to operate her handheld from the tnc with no noise problems. i'll quit now. look around some more and see what fits your budget best and offers the most bang for the buck.

--

```
--      wapembe@afterlife.ncsc.mil/president of BillCo./ka3yyr |development      |
|_| | |Our Motto: "Better Programming Through Osmosiszzzz...."|      this part|
|--|--|"Life is for entertainment purposes only. All other use voids warranty."
|_|_|_|DoD# 12543 Doh# 0000012543  @&>\o  |8={}|
```

Date: Wed, 10 Mar 1993 20:25:27 GMT
From: dog.ee.lbl.gov!pasteur!agate!howland.reston.ans.net!zaphod.mps.ohio-state.edu!sdd.hp.com!hpscit.sc.hp.com!hplextra!hpl-opus!hpnmdla!
alanb@network.UCSD.EDU
Subject: just wondering?
To: packet-radio@ucsd.edu

In rec.radio.amateur.packet, gary@ke4zv.uucp (Gary Coffman) writes:

>In article <dlawlor.731579198@morgan> dlawlor@morgan.ucs.mun.ca (Doug Lawlor) writes:

>>I am just wondering if anyone could point me to a list of good
>>recommended tncs? I am in the market for a tnc and am wondering which
>>ones to avoid.

>For *packet only*, I would recommend a true clone of the TAPR 2.
>The MFJ1270B is the default.

I had always heard that the MFJ1270B is a true TNC2 clone. Well it is and it isn't. The PC board has been modified to add a few new features (like an HF tuning indicator.) And the software has been extensively modified to add new features (like a bulletin board). A friend noted some compatibility problems when he tried to use a 1270 with one of the popular DX contest programs. And I have found out that, apparently, the XON/XOFF serial interface protocol got broken somewhere in the software modification process.

Does anybody make a TRUE unvarnished TAPR TNC2 clone?

AL N1AL

Date: Wed, 10 Mar 1993 21:35:35 GMT
From: swrinde!zaphod.mps.ohio-state.edu!wupost!tulane!cs.cs.uno.edu!
news@network.UCSD.EDU
Subject: looking for net rom format
To: packet-radio@ucsd.edu

I have written most of the firmware to allow a 68hc11 to act as a tnc, but I can not find anything on net rom or thenet. These are not necessary but having pages of control characters and beeps are not fun when the software is in passall mode. Thanks in advance.

N5ZDA Matthew Farley

Date: Wed, 10 Mar 1993 20:40:05 GMT
From: agate!howland.reston.ans.net!zaphod.mps.ohio-state.edu!sdd.hp.com!
hpscit.sc.hp.com!hplextra!hpl-opus!hpnmdla!alanb@ames.arpa
Subject: MFJ-1270B: Handshaking Problem
To: packet-radio@ucsd.edu

I recently bought an MFJ-120B TNC and am having trouble interfacing it to my terminal. Specifically the XON/XOFF protocol doesn't work.

Background: TNC2 clones have 2 ways of handshaking between the computer/terminal and the TNC. Hardware handshaking uses the RTS/CTS lines on the RS-232 interface to slow down transmitted data so as not to overflow the receiving device's input buffer. XON/XOFF handshaking works with a 3-wire interface (no RTS/CTS wires). The receiving device sends an XOFF character (control-S) to stop the sender when the receive buffer is almost full. An XON character (control-Q) is then sent later to re-start data transmission.

The MFJ-1270B does not respond to XOFF characters. This is true both for XOFF's sent automatically by my terminal and for control-S's sent manually from the keyboard. I have the XFLOW parameter set to ON, and START and STOP are set to the proper XON/XOFF characters. I tried all possible PARITY and 8BITCONV settings. The problem appears at (at least) 4800, 2400 and 1200 baud.

My old Kantronics KPC-2 TNC works fine, by the way. It responds to XOFF and XON characters whether sent automatically from the terminal

Has anybody else had this problem? Any clues?

Any responses will be greatly appreciated.

--
Ashok Aiyar Mail: ashok@biochemistry.cwru.edu
Department of Biochemistry Tel: (216) 368-3300
CWRU School of Medicine, Cleveland, Ohio Fax: (216) 368-4544

Date: Wed, 10 Mar 1993 14:40:36 GMT
From: munnari.oz.au!spool.mu.edu!howland.reston.ans.net!gatech!kd4nc!ke4zv!

gary@network.UCSD.EDU
To: packet-radio@ucsd.edu

References <dlawlor.731579198@morgan>, <1993Mar8.134605.3827@ke4zv.uucp>,
<1993Mar10.051114.19531@afterlife.ncsc.mil>p
Reply-To : gary@ke4zv.UUCP (Gary Coffman)
Subject : Re: just wondering?

In article <1993Mar10.051114.19531@afterlife.ncsc.mil> wapembe@afterlife.ncsc.mil
(William Pemberton) writes:

>i have a mfj-1270b. the only problems i have with it are two. the first prob-
>lem is quality of manufacture. i prefer units that have well fitting faces and
>screws that seat well. my unit is a little lacking in this. nor is the unit
>flush with the table top. i fully admit these are cosmetic differences and are
>shortcomings to me. but, i still tend to look at such sloppiness as a sign of
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>that the unit is very noisy. this may just be my device or a particular lot. a
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>the radio is a knwd th-27a. this could be a problem with the radio but you have
>to check out the radio you plan to use. the noise level was sufficient to force
>me to install an outside antenna in order to reach a local bbs board.
>however, i have had no problem with the unit from a functional standpoint. i
>guess the bottom line is would i buy the unit again? probably not.

Actually I've found the MFJ1270 to be the *quietest* of the TNC2 clones. *But* there are a couple of things you have to do. First that tin box is a better shield than the diecast boxes used by PacComm and TAPR itself, *if* you scrape the paint off the joining surfaces and tighten the screws carefully. It's certainly better than plastic cased TNCs. Secondly you must, as with other TNCs, use shielded radio and computer cabling.

With those two steps executed, the only remaining problem may be a harmonic of the microprocessor crystal falling on a 2 meter packet frequency like 145.01 MHz. If that's the case, and about half of them do, then a small "gimmick" capacitor across the crystal will move the harmonic out of the way.

Operating with a rubber dummy load equipped HT is usually a problem anyway. The close coupling of the radio cable and the antenna almost always results in RF feedback to the TNC. A divorced antenna is by far the best solution to this problem.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary

Lawrenceville, GA 30244

Date: Wed, 10 Mar 93 15:30:33 GMT

From: csus.edu!netcom.com!netcomsv!orchard.la.locus.com!prodnet.la.locus.com!
lando.la.locus.com!dana@decwrl.dec.com

To: packet-radio@ucsd.edu

References <1993Mar4.153203.17965@nebulus.ampr.ab.ca>,
<1993Mar9.074711.12621@usl.edu>, <1993Mar9.135148.11313@ke4zv.uucp>1
Subject : Re: What is best radio to use for 9600 buad?

In article <1993Mar9.135148.11313@ke4zv.uucp> gary@ke4zv.UUCP (Gary Coffman)
writes:

>

>The MVP is a wonderful radio. It makes a fine repeater at a high RF
>site as well. For 9600 baud packet, you can't feed the tones into
>the microphone input. The audio shaping filters wreck it. You can
>feed the tones into the Channel Guard input, however, and it works
>just fine. The only caution is that the CG input is not gain limited
>and you have to be careful not to over deviate the transmitter.
>The CG input also has no pre-emphasis so you can run into tone twist
>problems with some amateur radios unless they are taking the audio
>output directly from the discriminator. This is a good practice for
>9600 baud in any event however. You can pick up CG in and out at
>P9 on the audio board.

I agree with Gary that the MVP is an excellent radio. There's plenty
of room in the front end casting to mount a GaAsFET pre-amp in series
with the receiver lead; I used the little Hamtronics board. It makes
the receiver quite hot and still relatively crunch-proof. On a mountain
top, though, you probably wouldn't want to use a pre-amp.

However, the VHF MVP is not as well suited to 9600 baud operation as
Gary would suggest. The MVP exciter is a phase modulated design.
There is no method normally provided to frequency modulate the radio;
the temperature compensation line to the channel element does not
pull the frequency far enough or linearly enough for 9600 baud packet.

Gary is correct that the Channel Guard (CTCSS) signal is not processed
as the microphone audio is. However, the CG input phase modulates the
radio just the same as the microphone audio does. Furthermore, the
microphone audio is **not** pre-emphasized when it is fed to the phase
modulator. The microphone audio **is** pre-emphasized before it is
fed to the clipper, then it is de-emphasized and then low-pass filtered.
Though I haven't done the Spice model of the networks, it would appear

that the mic audio is relatively unchanged with respect to frequency response.

As far as I can tell, the CG signal is handled separately to avoid a couple of things; first of all, since the CG input is of known amplitude, there is no risk of accidental over-deviation and the mic audio circuit may introduce unnecessary distortion. More importantly, though, the phase modulator inherently pre-emphasizes the audio fed to it (that's why the microphone audio is not pre-emphasized when it gets to the phase modulator). The low frequency CG tone results in much less effect deviation than the mic audio several octaves higher, so it may be of a high enough level to clip in the mic stage. This would severely distort the mic audio.

I would think that feeding the 9600 baud signal directly to the phase modulator would result in a pre-emphasized signal with effectively no low frequency response. Using the CG input avoids the distortion the mic audio would likely introduce, but it still results in a PM signal.

Now, I haven't looked at the UHF MVP; maybe it does FM the rock for CG, but the VHF certainly doesn't. That's why my MVP is a 1200 baud radio. It may be that a 9600 modem "works" acceptably with a PM radio under some circumstances, but I don't think it is optimum.

--

* Dana H. Myers KK6JQ | Views expressed here are *
* (310) 337-5136 | mine and do not necessarily *
* dana@locus.com DoD #466 | reflect those of my employer
*
* This Extra supports the abolition of the 13 and 20 WPM tests *

Date: Wed, 10 Mar 93 19:52:36 GMT
From: netcomsv!orchard.la.locus.com!prodnet.la.locus.com!lando.la.locus.com!
dana@decwrl.dec.com
To: packet-radio@ucsd.edu

References <dlawlor.731579198@morgan>, <1993Mar8.134605.3827@ke4zv.uucp>,
<1993Mar10.051114.19531@afterlife.ncsc.mil>us.com
Subject : Re: just wondering?

In article <1993Mar10.051114.19531@afterlife.ncsc.mil> wapembe@afterlife.ncsc.mil
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>flush with the table top. i fully admit these are cosmetic differences and are
>shortcomings to me. but, i still tend to look at such sloppiness as a sign of

>potential inferior components internal to the device.

Gawd! You mean MFJ items are built cheaply? Oh noooooooooo!

--

* Dana H. Myers KK6JQ | Views expressed here are *
* (310) 337-5136 | mine and do not necessarily *
* dana@locus.com DoD #466 | reflect those of my employer
*
* This Extra supports the abolition of the 13 and 20 WPM tests *

End of Packet-Radio Digest V93 #64
